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ABSTRACT

This career planning guide is intended for college students with disabilities who desire careers in science, mathematics, or engineering. The booklet reflects the experiences and advice of 286 individuals with disabilities who are in these careers or preparing for them. The first section focuses on the personal autonomy available in the college setting. The second section suggests sources of information about available college support services, financial aid, and suggestions to facilitate adjustment. A checklist allows the student to assess needs for his/her specific disability. Next, choosing a major is discussed as well as making connections with faculty members, students, and other people with disabilities. Assistive technology for students with vision impairments, hearing impairments, and mobility impairments is addressed and the importance of being familiar with federal laws that protect students with disabilities is stressed. The following section focuses on communication, including communicating one's special needs and the importance of making contacts with other people. The final section notes the importance of maintaining a sense of humor and achieving real competence in one's chosen field. Interspersed throughout the booklet are photographs of successful individuals with disabilities and quotes giving their advice. (DB)

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You're in Charge

A career-planning guide
in science, mathematics,
and engineering
for college students with disabilities
and the advocates and advisors
who work with them

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Advancement of Science

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It's Your Life

Who's in charge? You!

As you were growing up, a lot of people helped you:

- parents,
- teachers,
- counselors,
- neighbors and relatives, and
- classmates and good friends.

You needed these people, and you are going to need them still. But now, as you are looking toward the end of high school and the beginning of college, the people who helped you so much will not be the people in charge of all your decisions.

"It's your life, and the person in charge is you."

Who says "You're in charge"?

For this booklet, 286 people with disabilities—all actively engaged in science, mathematics, or engineering as working professionals or college students—participated in a research study. The quotation above and others that follow are their advice to you in considering college and career options.

"It's important to have someone who will help you stretch toward your dream."

The professionals and students quoted in this booklet want to help you stretch toward your dream.

How does college change your life?

This is the time when you start to make your own decisions. This is when you begin

to take responsibility for yourself without waiting for others to do things for you.

It's not going to be easy. You can expect to have a lot of frustration along the way. It's likely that you've already experienced frustration—college won't be the first time.

"You're going to face setbacks that others might not, simply because you have a disability. Don't let this stop you."

If you set a reasonable goal and stay determined, you can achieve that goal no matter what your disability.

What can college do for you?

If you pursue a college education in science, mathematics, or engineering, you will have the knowledge and skills that will create opportunities in a wide range of careers. People with training in these fields are needed to fill positions all over the country—

- in small and large businesses,
- in private industry and government agencies,
- in laboratories, and
- on university campuses and in schools.

Your disability may place special demands upon you. New technology, medical advances, and therapy can offer significant improvement, but they can't solve everything. A solid education fills the gap.

"A good education leads to a good job and an independent life."

In a science or engineering career, your mind and intellectual abilities will come first.

It may not be possible for you to walk, or to hear speech, or to see, or to speak more

clearly, but with an appropriate education your intelligence can be fully used.

"Know that if you put your mind to it, you can do anything....You have to push yourself...go for what you want."

Be ready to learn more, and grow more, to solve problems and create new solutions.

M. Clinton Miller, III, Ph.D., Professor and Chairman, Department of Biometry, Medical University of South Carolina, quadriplegic

Summing up:
What can college mean for you?

Which of the following can college mean for you?

- A chance to start making all your own decisions
- Some frustrations as a result of your disability
- Some of your problems at least partially solved by technology, medical advances, and therapy
- An opportunity for an education and a good chance at a good job and independence

Which of these are true? All of them! College can be stimulating, maddening, fun, and future-building. You can handle it—you're in charge!

Once you decide that college is for you—and that a career in science, engineering, or mathematics is for you—you're ready to think about where to get that college education. Let's think now about how to choose a college.

Ready, Set, Go

What do you look for in a college?

If you're planning to study science, mathematics, or engineering, look for a college that offers a full range of courses in your field. Ask for suggestions from your high school counselor and from mathematics and science teachers. Go to the public library and the school guidance office to look at college catalogues. When you read about a college that interests you, write to its Office of Admissions for a copy of the general information brochure and course catalogue. Choose a college first for the courses offered, then for accessibility.

What help is available to you?

When someone with a disability is accepted at a college or university, that institution must provide support services to make programs accessible. Often the support is shared with a state agency.

Find out what state agencies are available to help you. Once you are 16, you can register with the local Department of Vocational Rehabilitation (often called Voc Rehab or DVR). This is not a quick process, but you need to go through registration to find out if you will be eligible for benefits as a student with a disability pursuing post-secondary education.

If you're eligible, Voc Rehab can tell you what you can expect in terms of financial support for

- tuition,
- books,
- technology,
- transportation, and
- readers or interpreters.

Get involved in finding out what equipment or assistance will be most helpful to you. If you are using technology that's outdated, find out about recent improvements in design, availability, and cost. Before you ask Voc Rehab to pay for technology, be sure you know what works best for you.

"There are new ways you can do what you're interested in doing, such as working with computer-generated data. Keep an open mind to new ways to work around your disability."

Regena Stevens-Ratchford, M.S., Assistant Professor, Occupational Therapy, Towson State University, vision impaired

The more you know in advance, the better you can plan. The items that Voc Rehab will pay for vary from state to state, depending on state regulations, so you need to know what Voc Rehab can pay for in your state. The policies not only vary from one state to another—they also change from year to year, so you need to keep current.

How will you finance your education?

As you begin to consider different colleges, discuss the alternatives with your family. They will have opinions on the location, size, and reputation of the college, the cost of tuition, and living expenses. How much can they afford to help you? How much can you earn yourself?

You can also look into other options for financial aid:

- federal grants and loans,
- state scholarships,
- direct grants from the college,
- aid from private foundation,
- awards from local chapters of service clubs, and
- grants from national disability organizations.

What else can you do to get ready?

Whatever educational institution you choose to attend after high school, you must learn how to deal with college requirements:

- dates and times for registration,
- prerequisites for course enrollments,
- deadlines for withdrawals, and
- schedules for exams and completion of projects.

Science and engineering programs have required courses that usually follow a set pattern. For example, some courses in physics and mathematics are only offered at certain times of the year.

To help you get ready for these programs, find out all the requirements—which courses you need to take first and when they are available. If you get on the right track in the beginning, you'll have the background

you need for each new course, and you'll have continuity in your courses.

You also may want to start with a lighter course load until you adjust to the new environment and greater reading expectations.

Here are other pointers to help you prepare for college.

Allow time to adjust to the new social situation. Don't expect to feel at home on the campus immediately. Don't expect to make close friends right away. It takes time to get used to a new place and become acquainted.

Be ready to work hard—your courses will be challenging but rewarding. Often one course builds on another, so it's important to understand all of the material.

Know your limits. Don't push yourself too much. Be ready to listen to your body and to respond to its demands for rest.

Assess yourself and the college you choose, then make a checklist of the support you'll need.

What should you include on your checklist?

You won't be able to figure out everything in advance, but you can take the initiative to acquire the information you need. Ask lots of questions and try to anticipate problems. Expect that your checklist will grow and change, as your anticipated problems and planned solutions change.

The checklist below can help you start.

Checklist for Assessing Needs

Contact the Disabled Student Services Office on the campus. (It may be located in the office of the Dean of Student Affairs, or it

may be listed independently.) Ask these questions:

- What services are offered?
- What are the names of the people connected to these services?
- Can you introduce me to another student with my disability (or another disability) so I can learn from that person's experience?

If you have a visual impairment:

- What would be the best way to become oriented to the campus and the classroom buildings?
- How do I arrange for readers?
- Are readers paid or volunteer?
- What assistive technology is available?
- How can I access information from computers? What computer adaptations does the college have, and when are they available to me?
- How can I take exams?

If you have a hearing impairment:

- Will the Disabled Student Services Office arrange for interpreters? If so, how do I set that up with my class schedule?
- Are oral and sign language interpreters available?
- Are note-takers available, or do I have to find my own?
- Does the campus have TDDs (Telecommunications Devices for the Deaf—sometimes called Text Telephones)?
- What are the provisions for safety in the dormitory in case of fire or other emergency?

If you have a mobility impairment:

- Are all the campus buildings accessible—administration buildings, classrooms, laboratories, and dormitories?
- Will there be any special problems with registration?
- How can I arrange my schedule to include the required classes and still have enough time to go from one classroom to another?
- Will I be able to reach and use all the equipment in the laboratory? If not, what arrangements must I make?
- If I need special adaptations to access computers, will the college provide them?
- What kind of catalogue system does the library have? If I need adaptations for access, will the college arrange them?
- If the college has a large campus, is there accessible transportation, such as a lift-equipped van, to get from one area to another?

If you have a learning disability:

- Can I have additional time for tests?
- Who arranges the extra time—me, the professor, the Disabled Student Services Offices, or the Dean?
- May I tape class lectures?

If you have a chronic health condition:

- How can I arrange my schedule to accommodate fatigue?
- Can arrangements be made for a personal care attendant if I need one?

The answers to these questions will give you an idea of where college is going to be easy and where it is going to be hard, in terms of accommodations. You may need to change some strategies, and you may need to push

for support in areas where the services do not appear to meet your needs. The more you know in advance, the more effectively you will begin.

Samuel M. Genensky, Ph.D., mathematician and former Executive Director and President, The Center for the Partially Sighted, vision impaired

You have to be persistent to become a scientist, mathematician, or engineer. Many students with disabilities have done this before you, and many more will do so in the future. You can be one of them.

Remember: you are making your own decisions. People who are well meaning and sometimes uninformed may tell you that you cannot accomplish what you have set out to do. But it's not their life. It's yours. You can do what you know is right for you.

"Many people might count you out, but count yourself in."

Plan of Action

Remember, it's your life and the person in charge is you. Take the opportunity offered by college to explore different areas of study and discover what interests you. Find a field that excites you and allow yourself the richest possible academic experience as an undergraduate student.

As you develop your plan of action, include plans to do the following:

- prepare to choose a major,
- make the most of orientation,
- establish connections,
- determine what assistive technology is available to you, and
- understand the laws that protect you.

Let's look at each of these steps in detail.

Do you know what to major in?

Some people have it all figured out. They know they want to be a biologist or a mechanical engineer. If you think you know what you want to do, talk to advisors, professors, and other students so you take advantage of the best course sequence and don't waste time.

Try to get this information and organize your schedule before the beginning of the first semester. As a student with a disability, you can usually request advance registration for classes, but this accommodation will help you only if you know your course preferences.

"Go to college to gain the ability to do something."

What if you don't know what you want to do? Most students take time to choose a

major. If you haven't decided on a major, take the basic courses that are required in the discipline that interests you most. For instance, calculus and chemistry might be basic courses that could be applied toward several majors in science and much of engineering.

Learn as much as you can during your first two years in college about the course requirements for the majors you might choose from, and try to keep your options open. Enroll in introductory courses in science or engineering to begin to understand what these fields involve.

What if you decide to change majors?

It's absolutely OK to change directions. If the quality of the courses disappoints you, or you find it very difficult to have direct communication with other students and faculty, you may feel more comfortable in another department.

The most important thing is to find an area you are very interested in and determine where your special abilities lie. Because you have a disability, there will always be extra work to achieve your goals. You need strong interest to carry you through difficult times.

"If you really like something and really find it interesting, go after it."

How can you make the most of the orientation period?

Almost all colleges have orientation for new students before classes actually begin. This period is crucial for planning and for developing good relations with administration, staff, and faculty. Use that time well.

Try to identify an advocate (someone who is supportive) at the very beginning of orientation. You will have a smoother entry

into your college studies if you have found someone with whom you can frankly discuss your concerns.

"It is very important to find someone who is very supportive, and who will back you up when you need it."

Be sure that at least one person in the campus Office of Disabled Student Services knows you. If you have moved into a college dorm, get the house manager or resident assistant on your side. If the college has assigned a faculty advisor to you, find out the office hours and visit the professor's office to become acquainted.

"Let them know who you are."

You may need special services for orientation, such as interpreters or mobility assistance. If so, request them in advance.

Don't be afraid to ask for help of the right kind and from the right person. Let people know you have a disability without looking for sympathy.

"Sometimes people with disabilities try so hard to be independent that we overdo it. We forget we're human."

How can you make connections?

It's important to connect with other people at college—faculty members and students.

"I have never made strong progress in my career without the support of at least one special person who was willing to go out on the limb for me."

That special person may be a faculty member or another student.

How can connections with faculty members help you?

Your most helpful resource on campus is likely to be a member of the faculty. Professors are like other people and may at first feel ill-at-ease with a person with a disability, especially if their experience has been limited. You must take the initiative and cultivate the relationship.

Irwin Finkelstein, M.D., Psychiatrist and Medical Director, East Valley Camelback Hospital, post-polio

Seek a professor as a friend and a resource for your future goals—a mentor. Professors are crucial in giving referrals for graduate schools, in locating teaching and research assistantships, and in helping find jobs for summer and after graduation. A teacher can also give you a different perspective than a member of your family or another student can.

Go to see members of the faculty at office hours. They will take the time to talk

with you if you are really interested. Start with questions about the course and the professor's own research. If you're not curious about things in that field, ask a professor who knows and respects you to connect you with a colleague who does research in the field you wish to enter.

It's worthwhile to develop this knowledge in your early years of undergraduate education. When you are a junior and senior, you will need to know professors to be involved in science and engineering projects.

Can you expect professors to be informed about your disability?

Even though professors may be outstanding in a field of science, they are not necessarily well informed about a specific disability or appropriate accommodation. Give them patience, time, and the information they need to meet your needs.

You may have to communicate openly that you can do something, such as serve as a teaching assistant. Even in a university with very large classes, you can take the time to develop understanding, and you will discover that many professors do care.

"The most influential physicists can be very human and kind—real people even though famous."

A mentor doesn't have to be someone with your exact interest. Finding someone you trust and feel comfortable with is perhaps more important. Scientists and engineers and other mentors who have "been through it" are especially helpful.

The *AAAS Resource Directory of Scientists and Engineers with Disabilities* is an

excellent source of role models in all fields of science and engineering and with all types of disabilities. You can also call the AAAS Project on Science, Technology and Disability for the names of scientists and engineers to contact for information concerning possible careers.

AAAS
Project on Science, Technology and Disability
1333 H Street, NW
Washington, DC 20005
(202) 326-6630 (voice/TDD)

How can connections with other people with disabilities help you?

Reach out to professionals, students, and other people with disabilities. You can learn how they solve problems and share your own strengths and strategies. When you have identified a special interest, look for other people with disabilities who have done something in that area. It helps you see that you can succeed, even if it takes a while.

Knowing other people with disabilities in your own or related fields is also important in keeping up with new developments in technology. Another person may have a computer adaptation, software, or a more portable telecommunication device that's new to you. Even if you had time to read all the literature about new products, you always need advice from someone with practical experience.

Susan Kershman, Ph.D., Associate Professor, Pennsylvania College of Optometry, hearing impaired

"Seek out role models—if you can't meet directly with a scientist with a disability, try to call him or her on the phone, or even communicate by exchange of videotapes. A one-hour talk is worth a lot."

What assistive technology would help you?

In the research world, considerable effort is spent in exploring whether technology developed in one field can be applied effectively in another.

In your world, the world of higher education, your main concern is that the technology that exists transfers to meet your needs, to link you effectively with the learning and communication that takes place in college.

It's important to know

- what products are available,
- how they have been improved or can be adapted,
- where they can be purchased and repaired,

- how much they cost, and
- who will pay for them (you, the college, Voc Rehab, or a combination of financial sources).

You must take full responsibility for this information because you are the user, and all of this knowledge will make an important difference to you.

If you think the laboratory facilities should be modified for you, point out what you need and be assertive to get it. Staff from the physical plant office on campus can be very helpful in designing ways around problems in laboratories and dorm rooms. Try to visit classrooms and labs before the semester begins because structural changes take time.

If you need special equipment in a laboratory, such as a measuring device that gives a visual rather than an auditory signal, students in the engineering school might help you. If you can explain your disability and the lab activities you need to do, a good problem-solver may take it on as an interesting project.

"Be responsible for yourself and for getting the help you need to get through college. You must ask for what you need and anticipate what it will take to get through a situation."

Again, you need to think ahead to your needs and work with others to change the environment to meet them.

What technology is available for students with vision impairments?

If you have a vision impairment, you need to find out as far in advance as possible what textbooks your professor will be using.

Omhny Romero, M.S., Member of Technical Staff, AT&T Bell Laboratories, blind

You can obtain recorded college texts free from the tape library of

Recording for the Blind
20 Roszel Road
Princeton, New Jersey 08540
(800) 221-4792

New texts in science, mathematics, and engineering can be recorded on request, but the process takes several months, especially at the start of the academic year. Some professors, particularly in the sciences, change textbooks frequently as new developments occur in the field and may not select their textbooks until just before class begins.

Many colleges also have reading machines in the library. These may not replace recordings for textbooks, but they can be extremely useful to read journal articles and other print references.

Professors who write their lectures on a computer may be willing to give a copy to blind students who have technology that converts to Braille or synthetic speech. Most students with vision impairments use a combination of technology and live readers,

Dierdre Timpson, former Electrical Engineering undergraduate, California State Polytechnic University-Pomona, quadriplegic

volunteer and paid. You'll need to figure out the technology or combination that's best for you.

What technology and assistance are available for students with hearing impairments?

If you have a hearing impairment, you must decide whether you want interpreters in the classroom and whether you prefer oral, sign language, or cued speech interpreters. Some students with hearing impairments have enough residual hearing that assistive listening devices (ALDs) such as FM systems make a significant difference in the classroom.

Some colleges have a system of paid note-takers for students with hearing impairments, but many students make arrangements on their own by asking the instructor to request volunteer note-takers from the class. Two or three note-takers are better than one because they may bring out different points.

Other colleges allow students with hearing impairments to record lectures on a tape recorder and then will have the notes

transcribed for the student. You'll need to learn your college's policy on this. If the time lag between recording and transcribing isn't too long, it's an effective way to obtain notes.

Some colleges and graduate schools offer real-time captioning of professors' lectures. This requires a stenographer and special technology.

Students who use telecommunication devices for the deaf (TDDs) usually have their own personal device, but the college should provide TDDs in several strategic locations—health emergency services, the Dean's office, and the Office of Disabled Student Services. Students who are deaf can access anyone by telephone through the TDD relay. Electronic mail and other computer networks can also be tremendous assets to students who are deaf because they present no communication barriers. You'll need to learn about the TDDs and computer networks that are available on your campus.

Closed-caption video decoders are a great help in keeping up with news and entertainment programming. Sets built or sold in the U.S. after July 1993 have decoders built in.

If you have a hearing impairment and lipread, it may be wise to check out professors in advance to see if their style of lecturing is easy or difficult to follow. You probably can't do this in the first semester, but as you become more familiar with your department, you can make certain choices that are best for you. Most students with hearing impairments must go through a period of experimentation to find out what works best. You'll probably have to do the same.

"Go after what you want....Each semester has different trials and obstacles. Be patient. Learn that you can solve the problem."

What can students with mobility impairments expect?

Access to buildings has greatly increased in recent years, but if you have a mobility impairment, you know that access problems still exist in many places. College buildings

Joseph Paul Hogg, M.A., Associate Senior Engineer, Bull, Inc., quadriplegic

are no exception. You'll face access problems within some existing buildings and labs. If you use a wheelchair, you're entitled to a parking space with enough room to enable you to get in and out of your car.

As new buildings go up and departments are rearranged, you need to anticipate possible access problems. Unless the administrators at your college are very unusual, they aren't going to be thinking about all your needs in advance. It's up to you to alert them and to keep up with new technology and

design options so you can give an exact description of what you need.

"You cannot expect other people to carry the ball for you. You must be able to push forever...push for everything on your own and still pray they 'do' it the right way."

The result may not be perfect, but it should function well enough for you to participate fully in your classes and lab work.

Do you understand the laws that protect you?

Become familiar with the law that protects you as a **student** with a disability (Section 504, Rehabilitation Act of 1973) and the Americans with Disabilities Act, which covers you as a **citizen** with a disability. If you don't understand the legislation, talk to other students with disabilities on campus. You can learn from others who have had similar experiences, and they can help you become your own advocate.

"Each generation of people with disabilities must shape the environment for the next."

Summing up: What should a plan of action include?

To get ready for college, take these actions:

- Prepare to choose a major, or make at least a preliminary choice.
- Use the orientation period well.
- Establish connections with faculty members and other students with disabilities.

- Determine what technology and assistance is available and most useful for you.
- Understand the laws that protect you as a student and citizen with a disability.

With your action plan in mind, let's consider another action that will be important throughout your college career (and your life)—telling your story.

Telling Your Story

Communication is critical to your success in college and will continue to be important in all your work as a scientist, mathematician, or engineer.

What do you need to communicate?

There are three areas in which communication is especially important for you: questions about course content, understanding of content, and special needs. Let's look at each one.

Questions about course content. First, you have to understand the content of your coursework and be willing to seek help if you feel you are falling behind. Always try to fix communication break-downs before they get worse. If you can't communicate with one professor or instructor, see your advisor for help. Be assertive, and persist in asking. There is more than one way to learn a subject, and you may be more successful with a different approach.

Expressing your knowledge. Learning to write up experiments carefully is essential. The more effective you can be in recording lectures, writing papers, and preparing presentations and publications, the more you can convince people of your competency in the field.

Special needs. It's vitally important to communicate any special needs relating to your disability. Be very specific. It's not obvious to others what you need. Make clear to the instructor or professor what your limitations are, how you plan to overcome them, and how the department can work with you.

If discussion with a faculty member doesn't seem to be effective, try using written communication. Don't underestimate what you can do on paper or with e-mail. A well written letter clearly describing the problem and the possible solutions may be more effective than a conversation.

What if you have a communication disability?

If your primary or secondary disability is communication, it may be very hard or impossible for you to speak in public, or even to speak one-on-one to a professor. You must use whatever method is most effective for you—speech, an interpreter, written notes, or notes over a computer or e-mail.

Omhny Romero, M.S., Member of Technical Staff, AT&T Bell Laboratories, blind

If you cannot access a computer through a standard keyboard, find the adaptations that give you access. The Office of Disabled Students Services will help you here, but you must take the time to try out various adaptations until you find the one that works best for you.

People in Your Life

People can help you.

When you take courses in science or engineering, there will be many long hours when you are alone, struggling over the problem sets in your books, trying to find the reference you need on the cassette tape, or monitoring equipment in the laboratory. You can't short-cut the hours you must spend on your own. However, it's useful to remember that a lot of learning about science and about life takes place with other people.

If you stay a loner all the time, you'll miss out on important information you can learn from others. Informal social occasions and study groups are a good way to start meeting people on campus. Whatever your field of study, it helps to have a group of friends for support.

How can you meet people?

The problem for many students with disabilities is that it is not always so easy to get where the people are. So you may have to make a special effort to be social.

"You can't let your disability be an excuse for excusing yourself from life."

If you have a mobility impairment, you can negotiate for a dormitory room that is not only wheelchair accessible but is in a central location. You need to be able to go to your classes, but you also need to go to the Student Union and other places where students gather.

If you depend on accessible transportation, you may have to make a special effort to get transportation service during after-class hours, so you can attend evening activities.

If you have a visual impairment, and cannot read the bulletin boards around campus announcing events, you can ask a friend or reader to keep you up-to-date on upcoming programs. Find out if there is a campus radio station and/or e-mail bulletin boards. It is a source of information and might also be a place where you could contribute your talents.

If you have a hearing impairment, make a point of reading flyers posted around campus and the college newspaper, so you can be informed about activities you might not learn about in other ways. Find out if the television in the central social area is equipped with a closed-caption decoder—captioned television can be a good way for you to keep current on community and world affairs.

What can you do to make it easier?

It takes time to make social contacts. Half the battle is not being afraid to meet people, and probably you need to extend yourself more than someone without a disability.

Here are several strategies that can make it easier for you to meet people.

Be prepared to teach others about your disability. If you anticipate their questions and display a matter-of-fact assertiveness in discussing how you adapt, you will put them at ease. Of course, there will always be people with biased ideas about disability, and you will have to decide if you want to work to change their attitudes.

Get involved with a disability student organization where you can share experiences openly. With acquaintances who

do not have disabilities, you need a lot of patience and tact. With other students with disabilities, you may feel more free to talk about disappointments and rejections. These discussions will help you gain confidence.

Get involved in an extracurricular activity on your campus. Every campus has a wide range of clubs—political, religious, social—and activities—drama, music, intramural sports, yearbook, newspaper, radio, and others. They offer a good way to meet all kinds of people on campus, both with and without disabilities, and offer you a chance to do something that you are good at and enjoy that doesn't involve studying and grades.

"Be willing to try new things—you may find a hidden talent."

You could look for a sport that you were never able to try in high school, or you could volunteer on a campus activity.

The first time you try to join a new group, you may not find acceptance. But give it time, and you may make new friends.

"Even intellectuals may not be understanding. You must realize that you will sometimes run into ignorant and insensitive people in many situations."

What's important is to create variety in your life, to spend some time in nonacademic pursuits, and to take the time to develop friendships. You may know some of these people for the rest of your life. They may help you in school work and someday help make connections for a job. Take opportunities to meet people from other parts of the world, other races, other ethnicities, and other cultures. A variety of friends will give you

new perspectives on life. Having a disability, you have a lot of difficulties and frustrations. More people in your life will bring new viewpoints and new interests. Take opportunities to meet people from other parts of the world, other races, ethnicities, and cultures; these experiences will help you understand others and yourself.

Summing Up: How can you make contacts with other people?

At college, you can get to know a variety of people, both with and without disabilities. Here are some strategies:

- Make a special effort to be where people are.
- Be matter-of-fact about your disability.
- Get involved with an organization for students with disabilities.
- Participate in extracurricular activities.
- Realize that it takes time to feel comfortable in a new situation—give it a chance.
- Be responsive—recognize that having many people in your life can give you friendships, connections, and diversity.

Now, let's step back and look at the bottom line—the overriding issues that are important as you think about college and your eventual career in science, mathematics, or engineering.

The Bottom Line

What are the overriding issues?

One overriding issue may be a sense of humor. You may need to laugh at yourself and your struggles, and laugh at the people who are trying to help you but go about it the wrong way.

"There is no 'magic.' It's all about getting in there and not giving up."

Gordon Wood Anderson, Ph.D., Research Physicist, Naval Research Laboratory, epilepsy (Photo courtesy of the Naval Research Laboratory, Washington, D.C.)

The bottom line is also competence, because your mastery of a subject area is what will get you ahead. If you are knowledgeable about a subject, your disability becomes less and less important. As you become more proficient, you become more confident, and the confidence encourages you to keep stretching for more knowledge.

"Don't expect to get what you want easily. There is simply no easy way."

Your education to prepare you to be a scientist, mathematician, or engineer will allow you to contribute to society. You'll be able to convince those who work with you that even if your body does not function perfectly, your mind can function as well as any one else's—or even better than theirs.

"Perseverance, determination, positive attitude, and creativity in overcoming your disability are the most important qualities you can have."

If you have those qualities—you can do it! Remember, you're in charge.

A companion booklet, *Find Your Future*, helps high school students with disabilities consider why they might choose careers in science, mathematics, and engineering. It describes the rewards, the personal characteristics and education required, and steps that can lead to these careers.

Published in 1991, *The Challenged Scientists: Disabilities and the Triumph of Excellence*, profiles the individuals pictured in this booklet. The book also describes the interviews and research that served as the basis for this booklet and for *Find Your Future*. It is available from Praeger Publishers, One Madison Avenue, New York, NY 10010.

The AAAS Resource Directory of Scientists and Engineers with Disabilities provides information on over 950 scientists and engineers with disabilities. It is available from AAAS Project on Science, Technology and Disability, 1333 H Street, NW, Washington, DC 20005. Please call 202-326-6630 (V/TDD) for ordering information.

For more information, please contact:

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